



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/622,664	07/18/2003	Svetlana Tatic-Lucic	085638/0304680	3859

27498 7590 06/23/2005

PILLSBURY WINTHROP SHAW PITTMAN LLP
2475 HANOVER STREET
PALO ALTO, CA 94304-1114

EXAMINER

ROJAS, BERNARD

ART UNIT PAPER NUMBER

2832

DATE MAILED: 06/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/622,664

Applicant(s)

TATIC-LUCIC ET AL.

Examiner

Bernard Rojas

Art Unit

2832

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 04/18/2005 have been fully considered but they are not persuasive. Applicant states that Cunningham et al. [US 6,746,891] fails to disclose that the moveable electrode is attached to a recess in the resilient structural layer of the actuator. Cunningham et al. discloses an actuator with resilient structural layer [142] with a recess having a moveable electrode [138] attached therein [figures 1q-1v and 2].

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Cunningham et al. [US 6,746,891].

Claim 1, Cunningham et al. discloses an actuator [figure 1v, 2] having a recessed movable electrode [138], the actuator comprising:

- (a) a substrate [100] including a stationary electrode [134] attached thereto;
- (b) a resilient structural layer [142] including a first end fixed with respect to the substrate, a second end suspended over the substrate, and a surface having a recess formed therein [see figure 1v]; and

(c) a movable electrode [138] attached within the recess whereby the movable electrode is separated from the stationary electrode by a gap [figure 1v].

Claim 2, Cunningham et al. discloses the actuator of claim 1, wherein the movable electrode is attached within the recess of the resilient structural layer whereby a first portion [the left side] of the moveable electrode is separated from the substrate by a distance less than the distance separating a second portion [the right side] of the movable electrode from the substrate [figure 2].

Claim 3, Cunningham et al. discloses an actuator [figure 1v, 2] having a recessed movable electrode [138], the actuator comprising:

(a) a substrate [100] including a stationary electrode [134] attached thereto;

(b) a resilient structural layer [142] including a first end fixed with respect to the substrate, a second end suspended over the substrate, and a surface having a recess formed therein [figure 1v];

(c) a movable electrode [138] attached within the recess whereby the movable electrode is separated from the stationary electrode by a first gap [figure 1v]; and

(d) a movable contact [144, 146] attached to the structural layer whereby the movable contact is separated from the stationary electrode by a second gap [figure 1v].

Claim 4, Cunningham et al. discloses the actuator of claim 3, wherein the movable electrode is attached within the recess of the resilient structural layer whereby a first portion [the left side] of the moveable electrode is separated from the substrate by a distance less than the distance separating a second portion [the right side] of the movable electrode from the substrate [figure 2].

Claim 5, Cunningham et al. discloses a method on implementing an actuation function in an actuator having a recessed, movable electrode, comprising the steps of:

(a) providing an actuator having a recessed, movable electrode [138], the actuator comprising:

(i) a substrate [100] including a stationary electrode [134] attached thereto;

(ii) a resilient structural layer [142] including a first end fixed with respect to the substrate, a second end suspended over the substrate, and a surface having a recess formed therein [figure 1v]; and

(iii) a movable electrode [138] attached at the underside of the recess whereby the movable electrode is separated from the stationary electrode by a gap [figure 1v];

(b) applying a voltage between the stationary electrode and the movable electrode to electrostatically couple the movable electrode with the stationary electrode across the gap, whereby the resilient structural layer is deflected towards the substrate [col. 16 line 27 to col. 17 line 6].

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

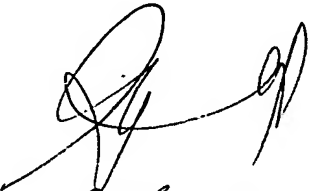
extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Rojas whose telephone number is (571) 272-1998. The examiner can normally be reached on M-F 8-4:00), every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin G. Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Bernard Rojas
Br


SP6-AU 2832
6/22/05